ENERGY SECURITY BOARD

TRANSMISSION ACCESS REFORM
TECHNICAL WORKING GROUP

4 May 2023

AGENDA

Time	Topic
10:00	Welcome, objectives and agenda
10:05	Overview of the transmission access reform consultation paper including: • Priority access • CRM
11:20	NEMDE prototype for the CRM design (*deferred from last TWG session*)
11:55	Next steps
12:00	Thanks and close

CONSULTATION PAPER

INTRODUCTION

Scope

The consultation paper:

- confirms the status of design choices published in the directions paper (November 2022)
- seeks stakeholders' feedback on open and new design choices
- outlines the status of technical considerations
- outlines next steps in the model's design and development.

Enhanced information is not in the scope of the paper. It is being developed as a rule change to be progressed by the Commonwealth Government and submission to the AEMC. Stakeholders will have the opportunity to provide input and feedback on this proposal as part of the rule change process.

Purpose

In February 2023, Ministers requested that the ESB work with Senior Officials and stakeholders to develop the voluntary congestion relief market (CRM) and the priority access model.

The ESB will provide a detailed design for consideration by Ministers in mid-2023. We are seeking stakeholder feedback now on key design choices that will inform the ESB's final policy recommendations to Ministers. In parallel, we are also consulting directly with jurisdictions on these matters.

Consultation dates

A public webinar is scheduled 1.30-3pm AEST, Monday 8 May 2023.

Written submissions are due by 12pm AEST, Friday 26 May 2023.

HYBRID MODEL

HYBRID MODEL – OBJECTIVES

The hybrid model, that we have been asked to develop by Ministers, is designed to address congestion issues in the investment and operational timeframes.

Figure 1. Transmission access reform objectives

Investment timeframes	Operational timeframes
The level of congestion in the system is consistent with the efficient level.	*When congestion occurs, we dispatch the least cost combination of resources that securely meets demand.*

1. Investment efficiency: Better long-term signals for market participants to locate in areas where they can provide the most benefit to consumers, taking into account the impact on overall congestion.

2. Manage access risk: Establish a level playing field that balances investor risk with the continued promotion of new entry that contributes to effective competition in the long-term interests of consumers.

3. Operational efficiency: Remove incentives for non-cost reflective bidding to promote better use of the network in operational timeframes, resulting in more efficient dispatch outcomes and lower costs for consumers.

4. Incentivise congestion relief: Create incentives for demand side and two-way technologies to locate where they are needed most and operate in ways that benefit the broader system.

HYBRID MODEL – OVERVIEW

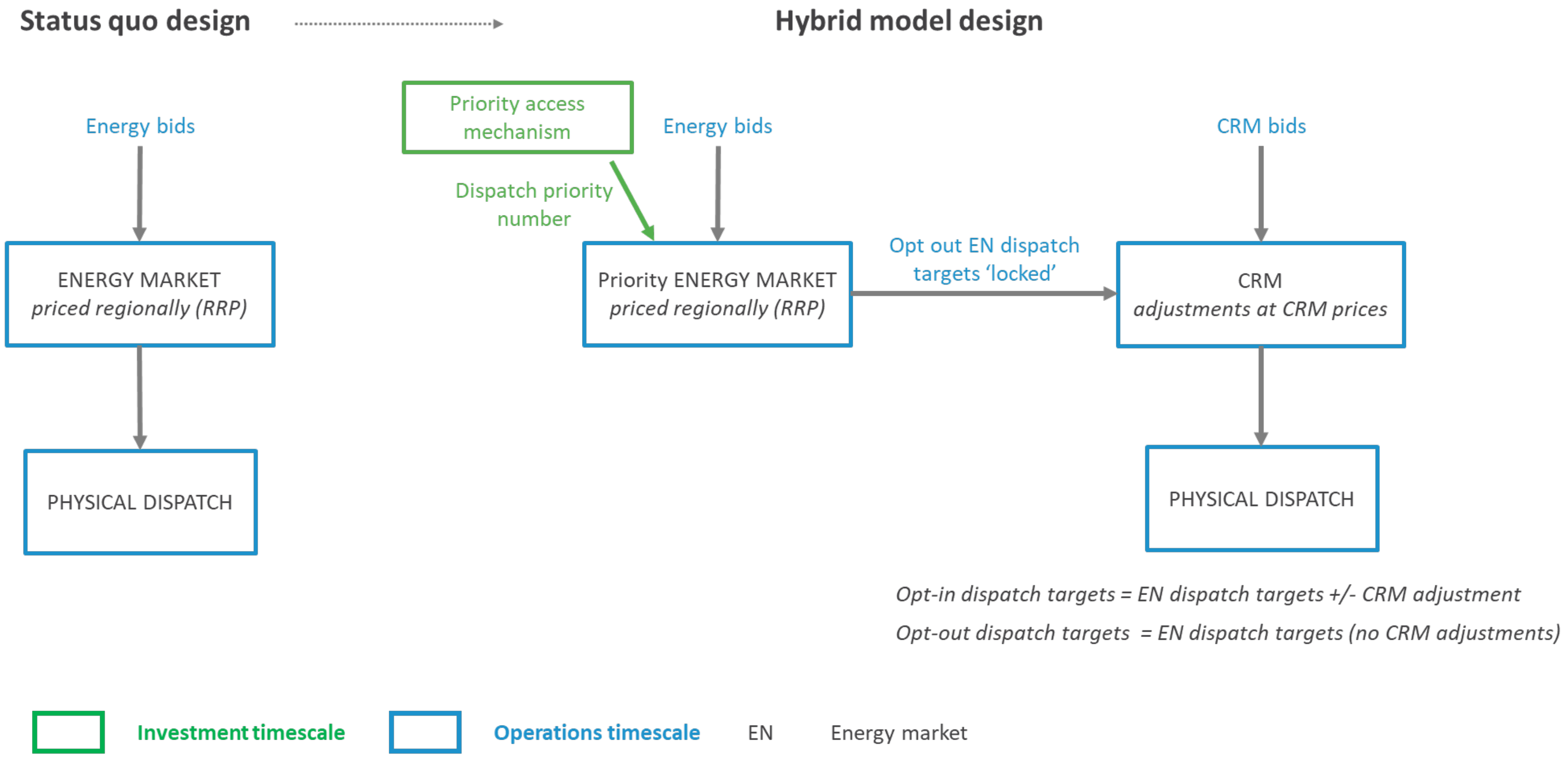
Priority access provides a locational signal for **(1) investment efficiency** and enables investors to **(2) manage congestion risk more effectively**.

A generator is assigned a priority level up front which is factored into the project's investment and siting decision.

The CRM provides bidding incentives for generators to bid more cost reflectively and achieve a **more efficient dispatch (3)**.

It **incentivises storage and demand response providers to locate and operate (4)** where they can relieve congestion with benefits to the whole system.

Figure 2. Proposed change to market design



HYBRID MODEL – EVOLUTION OF THE DESIGN

Both components of the hybrid model are based on concepts originally proposed by industry.

- The Clean Energy Investor Group (CEIG) submitted the transmission queue model which has been developed and incorporated into the priority access model.
- Edify Energy and the Clean Energy Council conceived and developed the congestion relief market (CRM) which has been incorporated into the hybrid design.

The consultation paper confirms the status of development of these model designs.

Readers should be aware:

- Key features and principles of the original model concepts are retained, but the details of the design have evolved since their original submission.
- Where appropriate, the consultation paper and/or FAQ document highlights and explains these points of difference.
- Terms are defined in the consultation paper which include clarifications for previously used terms or definitions for new terms.
- For clarity, the CRM is a voluntary market. It is strictly opt-in given the requirements to register. If a party chooses not to participate in the CRM, they do not have to submit CRM bids. Participants that have not registered to opt-in, are referred to as “opt-out” as a shorthand in the consultation paper.

PRIORITY ACCESS

PRIORITY ACCESS – OVERVIEW

The problem to solve

The existing market design allows incoming generators to cannibalise the access of existing generators. As a result:

- The ability to cannibalise access provides inefficient investment signals to incoming generators and storage .
- The threat of being cannibalised poses a risk for generators and storage that cannot easily be managed.

Benefits of priority access

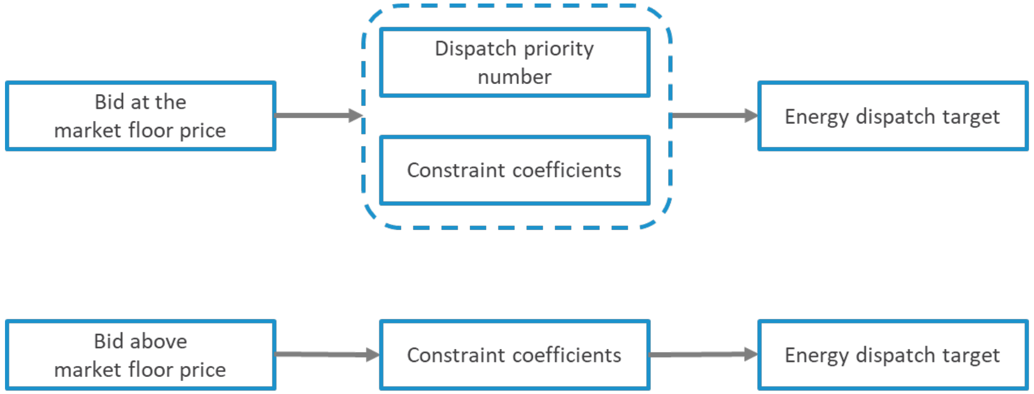
The primary benefits of priority access reform are to improve:

- the locational decisions of generation and storage investments
- the ability of investors to manage congestion risk.

Key elements

- Generators and storage are assigned a priority level during the investment time period.
- The priority level is given effect in dispatch during operational timeframes.
- When two or more generators bid at the market floor price, the resource/s with the higher priority level are given a higher level of priority in the energy market dispatch.

Figure 3. Prioritisation in the energy market dispatch



Note: Constraint coefficients is a simplification for the set of constraint coefficients and the relative marginal cost of those constraints.

Note: In the context of priority access, 'generator' is often applied as a shorthand for market participants including scheduled and semi-scheduled generators and market network service providers.

PRIORITY ACCESS – DESIGN CHOICES

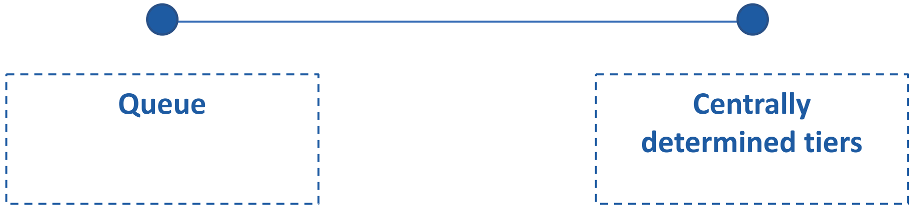
Design choices raised in the previous directions paper remain open and we welcome stakeholder feedback on these.

The consultation paper re-presents two key options for allocating priority access:

- queue
- centrally determined tiers

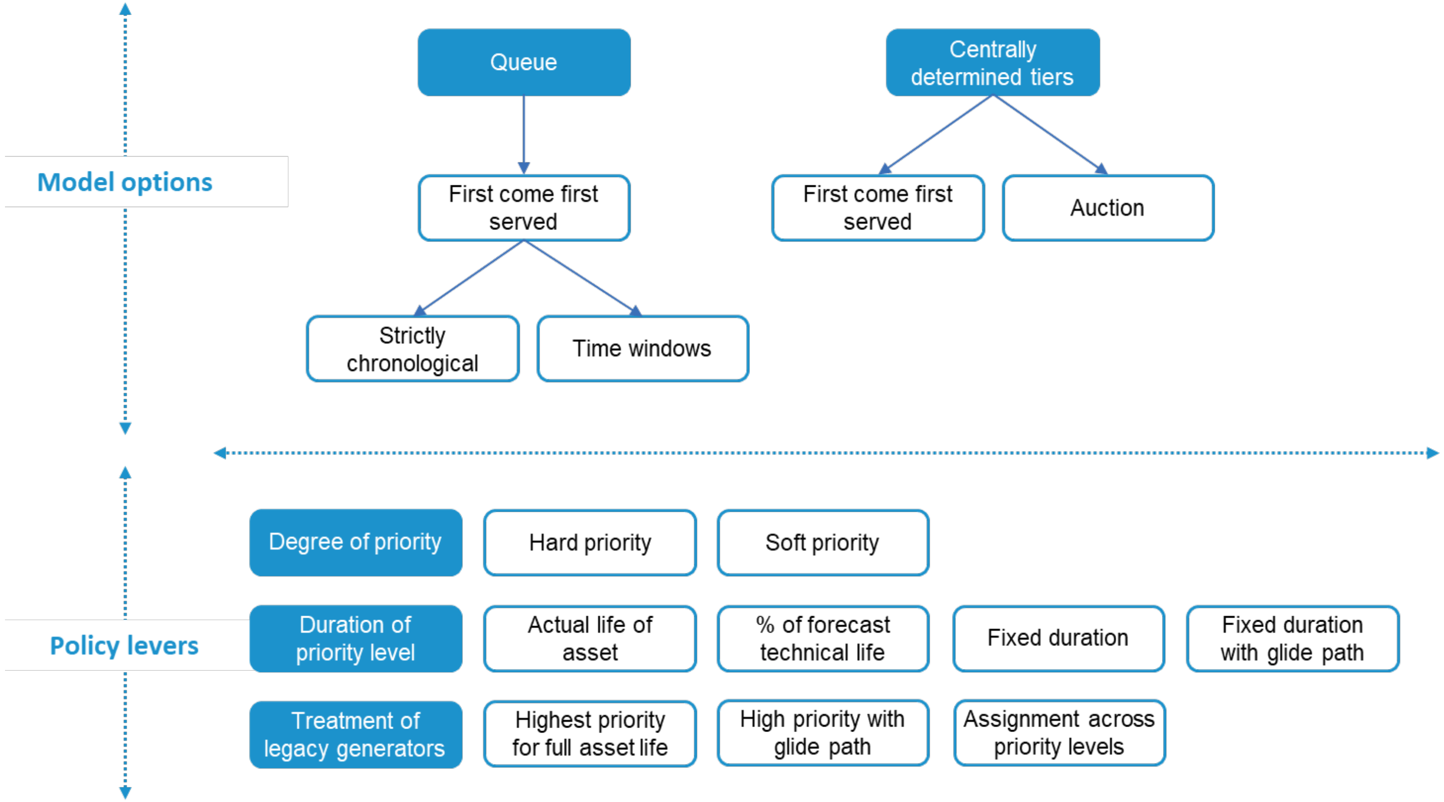
Within these options, there are an number of more detailed design options and implementation choices.

Primary design choice for the model option



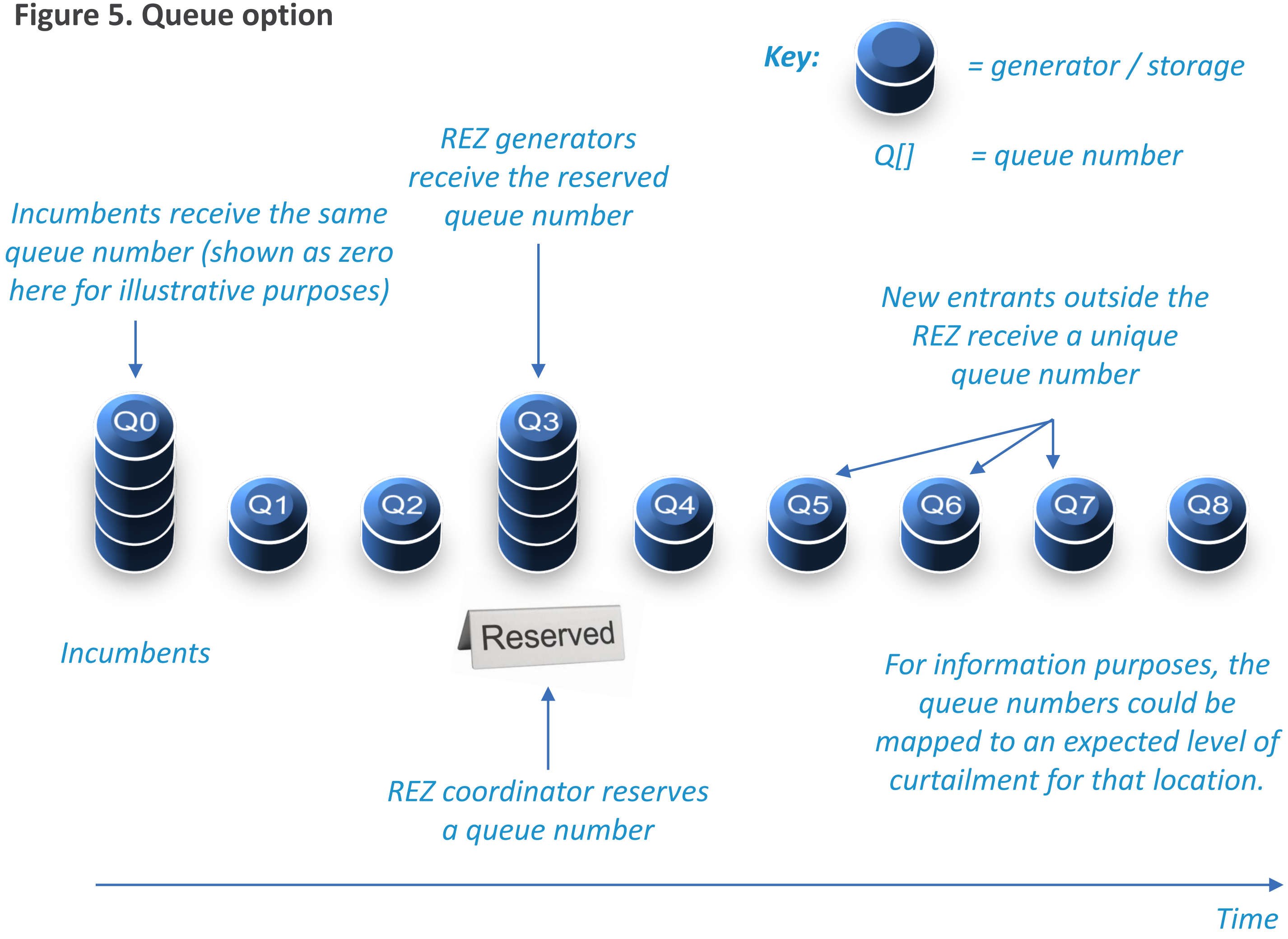
Model options are explained overleaf.

Figure 4. Hierarchy of key design choices for priority access



PRIORITY ACCESS – DEFINITION OF THE QUEUE MODEL

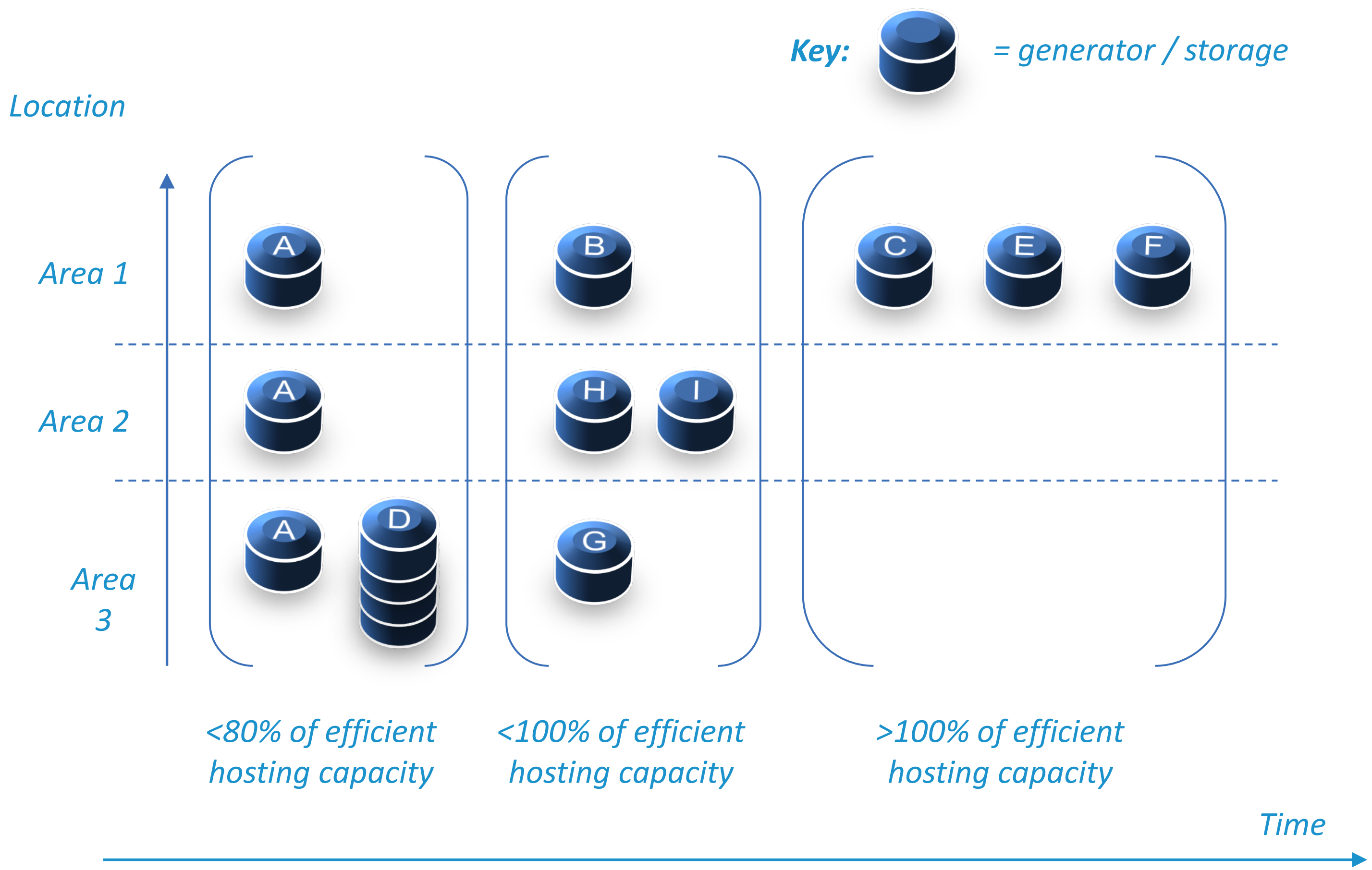
Figure 5. Queue option



- Generators (including storage) are assigned a queue number based on the chronological order in which they (or the REZ in which they hold an access right) reach a defined event in the connection process (or REZ development process).
- The queue option looks to uphold the principle that a generator connected at a later date receives a lower level of priority in dispatch. Its level of access depends on its network location and its queue number relative to other competing generators.
- Assigning queue numbers would be mechanical. The rules would clearly lay out the process, and no judgement would be required by AEMO or any other central agency in determining a resource's or REZ's queue number.
- Resources could be grouped by time window to (partially) avoid creating a rush to secure queue numbers.

PRIORITY ACCESS – CENTRALLY DETERMINED TIERS

Figure 6. Centrally determined tiers



- Generators (including storage) are assigned to a tier.
- The tier corresponds to a different level of priority in the energy market dispatch.
- This option requires a central agency or agencies – for example AEMO, TNSPs and/or jurisdictional bodies responsible for planning and delivering network augmentations – to determine:
    - zones within regions to which the tiers relate
    - the delineation of tiers
    - the hosting capacity of the network and available hosting capacity of the tiers
    - the allocation of generators / storage to those tiers.
- Generators within the same tier do not have priority over one another; within a tier, the dispatch algorithm favours generators that have a lower constraint coefficient in the binding constraint.

PRIORITY ACCESS – POLICY LEVERS

The two model options have risks and opportunities. Policy levers can be applied to adjust the desired outcomes and/or to mitigate risks.

Two policy levers are discussed in the paper:

- degree of priority
- duration of priority level.

Design choice for degree of priority

Harder; dispatch outcomes more influenced by the priority level of generators competing in the same set of binding constraints rather than constraint coefficients.

Softer; generators with a high priority are favoured but constraint coefficients remain a factor in determining access.

There are ongoing technical investigations which may affect the level of 'hardness' for implementation.

Design choices for duration of priority level

- Actual life of the asset
- Proportion of the asset's forecast technical life
- Fixed duration with glide path
- Fixed duration e.g. in line with typical PPAs

PRIORITY ACCESS – GRANDFATHERING

The model design will also need to consider the treatment of legacy generators (including storage) that exist at the date the reform is adopted e.g. the date that the rule change is approved, or a date specified in that rule change.

Separate arrangements may be required for legacy generators compared to entrant generators regarding the mechanism to assign a priority level and duration of priority access.

Three options are proposed in the consultation paper with an initial summary of pros/cons for each option. We welcome stakeholder views on these options.

Treatment of legacy generators and / or storage

- Highest priority level for full asset life
- Initial assignment to the highest priority with glide path.
- Split a legacy generator’s capacity across priority levels.

CONGESTION RELIEF MARKET

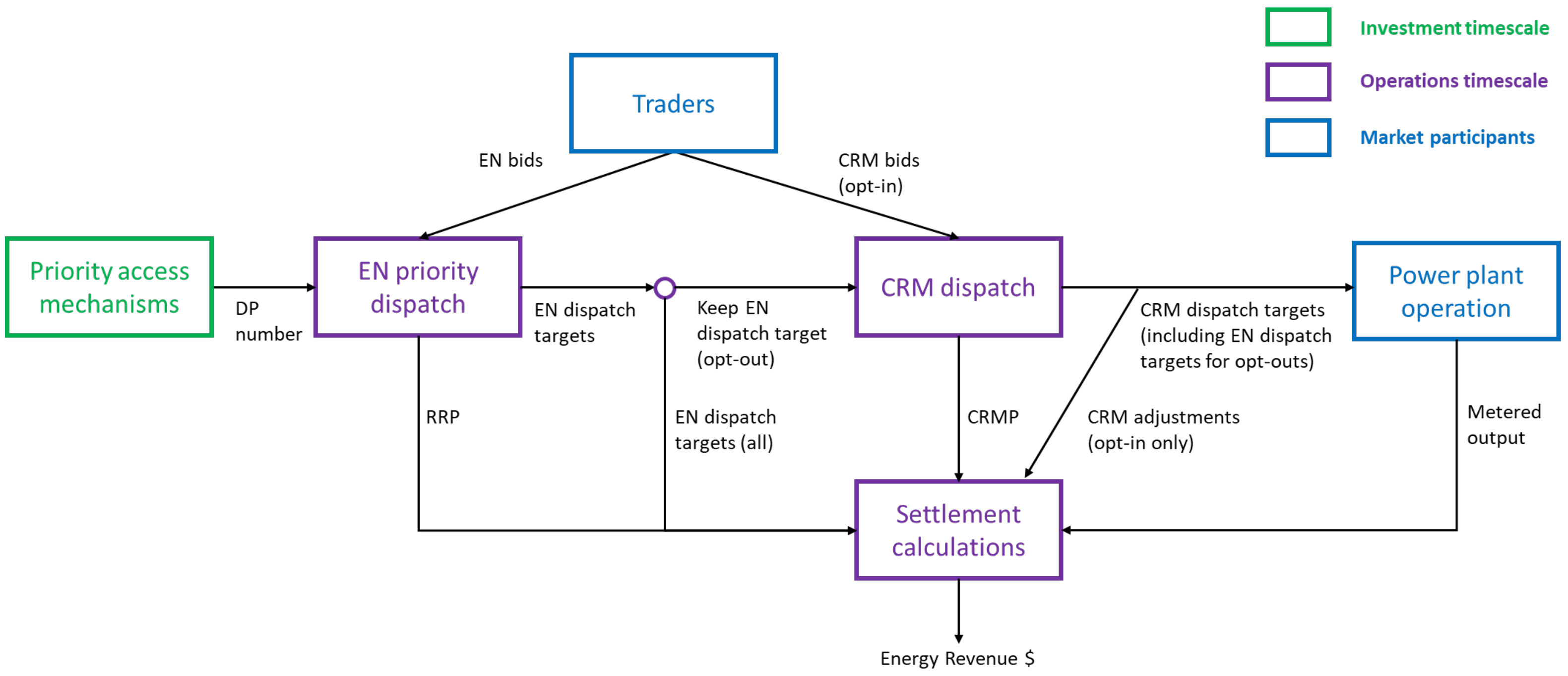
CONGESTION RELIEF MARKET – OVERVIEW

The primary benefit of the CRM is to provide incentives for scheduled participants to trade to more efficient dispatch outcomes.

There are four high-level processes in the hybrid model.

- Priority access mechanism
- Energy market priority dispatch
- CRM dispatch
- Settlement calculations.

Figure 7. Market architecture



CONGESTION RELIEF MARKET – STATUS OF DESIGN CHOICES

The consultation paper confirms the status of design choices raised in the directions paper (Nov-2022); the ESB is broadly aligned with stakeholder views.

The ESB is continuing to explore the potential for market manipulation arising from the CRM design and potential options to address this issue.

Figure 8. Status of design choices raised in the directions paper

Consistent with status quo ⟷ Change to status quo

Design choice	Option		
1. Rounding coefficients	Keep the existing energy market dispatch.		Round the constraint coefficients in the energy market.
2. Do we modify the energy market design in response to the new bidding incentives?	Keep the existing market design.	Modify the bidding guidelines.	Introduce automated rules into the energy market to exclude 'out of merit' bids i.e. if CRM bid > energy market bid.
3. Do we introduce additional rules for storage?	Apply the same rules to storage as a generator as to other generators (see above).		When storage is acting as a generator, exclude 'out of merit' bids i.e. if energy market bid > assigned strike price (+ availability profile).
	Apply the same rules to storage as load as to storage as a generator (see above).		When storage is acting as load, only settle storage at the CRM price.
4. How do we calculate RRP?	RRP_{NEM} - calculate the RRP based on the energy market (as per status quo).		RRP_{CRM} - calculate the RRP based on the final dispatch including CRM adjustments.
5. How do we settle metered output?	Differences (metered output vs dispatch targets) are priced at RRP.		Differences (metered output vs dispatch targets) are priced at the CRM price.

Key — Initial design preference (green) — Under investigation (blue)

CONGESTION RELIEF MARKET – NEW DESIGN CHOICES

Settlement residue

The settlement residue arising under the CRM market design is divided into two components:

- Inter-regional settlement residue (IRSR) from the energy market dispatch and deviations. This would be disposed in the same way as today.
- CRM residue from CRM trading is a new residue.

The consultation paper considers three options to allocate the CRM residue.

Design choices for the allocation of the CRM residue

- Add some or all of the residue to the IRSR from the energy market dispatch (paid to SRA holders).
- Allocate the residue to TNSPs in each region.
- Allocate to retailers via the settlements process.

Treatment of market network service providers (MNSPs)

MNSPs interconnect between two regions and trade the merchant interconnector in the NEM.

Rules need to be developed for the settlement of MNSPs in the CRM design.

The consultation paper proposes a settlement approach and provides settlement formulae.

Proposed treatment of MNSPs

- Settle MNSPs similar to a generator-load pair which would include an “IRSR” payment (similar to how they are paid today) as well as a CRM payment.

CONGESTION RELIEF MARKET – NEW DESIGN CHOICES *(CONTINUED)*

CRM bidding structure

The CRM design introduces a second dispatch run which settles CRM adjustments at the CRM price. This provides the incentive for CRM participants to bid close to their short run marginal cost (SRMC) so they should be more profitable whatever their CRM dispatch outcome.

However, additional features could be introduced for CRM bids which will provide traders with more control and certainty over CRM outcomes.

Two features are considered.

Design features

and/or

Quantity limits: set the maximum quantity that can be bought from, or sold into the CRM in a dispatch interval.

Buy/sell spreads: set a $/MWh spread between the minimum price to sell into the CRM and the maximum price to buy from the CRM.

FCAS bids and settlement

Both the energy market dispatch, and CRM dispatch are a complete dispatch run which set dispatch targets for both energy and FCAS.

The two dispatch runs will lead to two different dispatch quantities and two different prices for each FCAS service.

Design choices

One set of FCAS bids co-optimised for each dispatch run in turn.

Two sets of FCAS bids specific to each dispatch run (energy market and CRM).

Opt in and opt out generators are settled for FCAS CRM dispatch outcomes at FCAS CRM prices.

Opt out generators can elect to not participate in CRM FCAS trading.

TECHNICAL CONSIDERATIONS

TECHNICAL CONSIDERATIONS

Technical implementation in dispatch

Key requirements include:

- No material impact on timing of dispatch instructions.
- Maintenance of power system security
- Maximising the value of spot market trading

The consultation paper does not seek stakeholder feedback on technical changes to AEMO's systems but it provides a status update on the technical investigations for shared visibility.

Achieving preferences on the design choices will help to refine the design specification and ongoing technical investigations.

Implementing priority in the energy market

Potential options include:

- Market Floor Price (MFP) adjustments
- Sequential-solve

MFP adjustments allows parties with different dispatch priorities to bid at different MFPs in a single-pass solve. This has been tested in the prototype.

Sequential-solve would involve multiple dispatches in order of priority. However, there are likely challenges for implementation including solve times and not being able to find a feasible/low-cost solution.

<u>Harder priority:</u>

- Tested in the prototype with widely spaced MFPs i.e. -\$100k, -\$10k, -\$1k.
- Allows dispatch priority order to override most coefficient differences in binding constraints.
- However, can only accommodate a small number of queue positions.
- Can interact with constraint violation penalties (CVPs) and cause reversal of interconnector flows and higher RRPs.

<u>Softer priority:</u>

- Allows dispatch priority to override local differences in coefficients.
- Can accommodate more queue positions.
- Less likely to interact with CVPs and impact RRPs.

NEMDE CRM PROTOTYPE RESULTS

OBJECTIVES AND APPROACH

Objectives of the NEMDE prototype

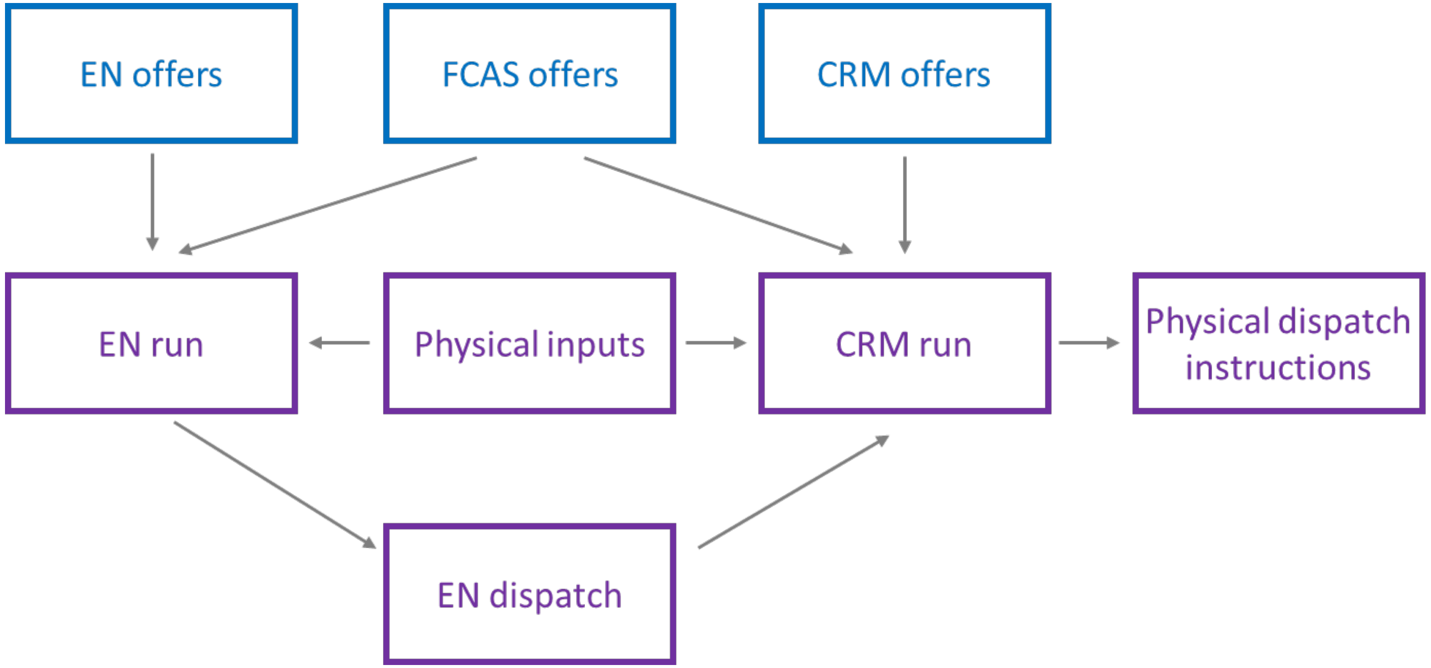
- To test the validity of the CRM design – does it work on a NEM scale ?
- To inform design decisions for the CRM e.g. how to deal with opt-out, IRSR formulation etc.
- To determine the impact on NEMDE for costing purposes.

Approach

- NEMDE is a scalable solver so we initially developed the CRM version by replicating a simple 4 node Excel model.
- Eventually we progressed to a 7 node 2 interconnector 1 FCAS service model before running it on a full historical NEM dispatch interval.
- Around 8 historical DIs were chosen based on input from the TWG and many of these are quite extreme cases involving multiple binding constraints and negative residue management.

PROTOTYPE FORMULATION

Figure 9. Illustration of prototype formulation



EN refers to the energy market

- Prototype comprises 2 identical dispatch runs with the same constraints and physical inputs (initial MW etc).
- Locational prices are determined using the existing NEM methodology.
- Participants submit 2 sets of energy offers and a single set of FCAS offers.
- NEM run occurs first and dispatch outcomes feed into the CRM as a constraint.
  - Opt-out participants receive the NEM dispatch outcome.
  - Participants can bid to limit the energy dispatch difference between the 2 runs.

APPROACH TO "OPT-OUT" AND CRM PRICES

- The CRM is a voluntary market. If a party chooses not to participate in the CRM, they do not have to submit energy bids. They are referred to as "opt-out" as a shorthand in this presentation.
- However, the CRM dispatch is a full physical dispatch run so requires energy bids from all DUIDs.
- In the CRM run opt-out DUIDs are dispatched at the same level as in the NEM run subject to a small tolerance (0.001 MW) to deal with degeneracy issues.
- The prototype uses the NEM energy bids for each opt-out DUID.
- The effect of this is to effectively "import" the locational prices from the NEM run into the CRM for opt-out DUIDs.
- Given there is no dispatch variation associated with these DUIDs the CRM prices do not have a financial impact.

CASE STUDY 1 – TRADING BEHIND A SIMPLE RADIAL CONSTRAINT

	NEM	CRM
LKBONNY2	41.9 MW	55.2 MW
LKBONNY3	10.3 MW	10 MW
LBBL1 BATTERY	0 MW	-13 MW
	<=	<=
	52.2 MW	52.2 MW
Location price	-$1000/MWh	$5/MWh

Case study	1
Description	Trading behind a simple radial constraint
Dispatch interval	10th May 2021

- LKBONNY2 and 3 bid at -$1000/MWh behind a 52.2 MW radial constraint and are dispatched under tie-breaking. SA RRP is $57.12/MWh.
- CRM bids assumed an SRMC close to $0/MWh:

  LKBONNY2 42 MW at -$5/MWh, 91 MW at +$5/MWh

  LKBONNY3 10 MW at -$7/MWh, 14 MW at +$7/MWh

  LBBL1 10 MW at $20/MWh, 15 MW at $10/MWh
- CRM Price is $5/MWh:

  LKBONNY2 receives +13.3 MW at $5/MWh

  LKBONNY3 pays back +0.3 MW at $5/MWh

  LBBL1 pays 13 MW at $5/MWh

Why isn't LLBL1 dispatched to charge at 25 MW?

- LKBONNY2 is marginal at $5/MWh and LBBL1 is prepared to charge unless prices rise above $10/MWh.
- The reason is to do with FCAS bids.
- LBBL1 is already being dispatched to provide 25 MW of Lower Regulation.
- 12 MW is bid at $0/MWh and 13 MW bid at $3.70/MWh.
- Each MW of energy it is dispatched for reduces the Lower Regulation it can provide and increases the requirement from the next lowest cost provider (in this case it is GSTONE at $7.73/MWh).
- NEMDE trades off energy and FCAS bids until it is no longer worthwhile at which point:
- Each extra 1 MW of LBBL1/LKBONNY2 dispatch reduces the objective function by 1 * ($5/MWh - $10/MWh) = -$5/MWh.
- Each extra 1 MW of load increases the FCAS cost by $7.73/MWh - $0/MWh = +$7.73/MWh
- To fully charge the battery it would need to raise its second bid band from $10/MWh to $12.74/MWh.

CASE STUDY 2 – TRADING BEHIND A LOOP CONSTRAINT

Constraint	N^^N_NIL_2				Dispatch MW				Locational price $/MWh	
Type	DUID	Coeff	Region	Sign	NEM	CRM	Var	LHS Chg	NEM	CRM
I/C	V-S-MNSP1	-0.3572		1	155.5	155.5	0.0	0.0	0.0	0.0
ENOF	ARWF1	0.0931	VIC1	1	41.7	41.7	0.0	0.0	-74.4	19.2
ENOF	BANN1	0.3084	VIC1	1	75.7	75.7	0.0	0.0	-294.8	15.1
ENOF	BROKENH1	0.4573	NSW1	1	44.1	44.1	0.0	0.0	-444.4	15.1
ENOF	BULGANA1	0.1109	VIC1	1	37.8	37.8	0.0	0.0	-92.6	18.8
ENOF	COHUNSF1	0.1749	VIC1	1	0.0	0.0	0.0	0.0	-158.1	17.6
ENOF	COLEASF1	0.9571	NSW1	1	128.2	128.2	0.0	0.0	-956.1	5.8
ENOF	CROWLWF1	0.0991	VIC1	1	22.6	22.6	0.0	0.0	-80.5	19.1
ENOF	CRWASF1	0.3248	NSW1	1	4.8	4.8	0.0	0.0	-308.8	17.6
ENOF	DARLSF1	1.0000	NSW1	1	105.6	108.0	2.4	2.4	-1,000.0	5.0
ENOF	FINLYSF1	0.3248	NSW1	1	125.3	125.3	0.0	0.0	-308.8	17.6
ENOF	GANNBG1	0.1749	VIC1	1	0.0	0.0	0.0	0.0	-158.1	17.6
LDOF	GANNBL1	-0.1749	VIC1	-1	-2.0	-15.5	-13.5	-2.4	-158.1	17.6
ENOF	GANNSF1	0.1749	VIC1	1	42.7	42.7	0.0	0.0	-158.1	17.6
ENOF	KARSF1	0.3572	VIC1	1	25.0	25.0	0.0	0.0	-344.8	14.2
ENOF	KIAMSF1	0.2716	VIC1	1	125.6	125.6	0.0	0.0	-257.1	15.8
ENOF	KIATAWF1	0.1540	VIC1	1	0.0	0.0	0.0	0.0	-136.7	18.0
ENOF	LIMOSF11	0.6865	NSW1	1	109.8	109.8	0.0	0.0	-679.1	10.9
ENOF	LIMOSF21	0.6865	NSW1	1	0.0	0.0	0.0	0.0	-679.1	10.9
ENOF	MUWAWF1	0.1860	VIC1	1	106.8	106.8	0.0	0.0	-169.5	17.4
ENOF	STWF1	0.4573	NSW1	1	17.9	17.9	0.0	0.0	-444.4	15.1
ENOF	SUNRSF1	0.6865	NSW1	1	87.3	87.3	0.0	0.0	-679.1	10.9
ENOF	URANQ11	0.0997	NSW1	1	0.0	0.0	0.0	0.0	-78.3	21.8
ENOF	URANQ12	0.0997	NSW1	1	0.0	0.0	0.0	0.0	-78.3	21.8
ENOF	URANQ13	0.0997	NSW1	1	0.0	0.0	0.0	0.0	-78.3	21.8
ENOF	URANQ14	0.0997	NSW1	1	0.0	0.0	0.0	0.0	-78.3	21.8
ENOF	WEMENSF1	0.3084	VIC1	1	77.6	77.6	0.0	0.0	-294.8	15.1
Outside of Constraint				1						
ENOF	MURRAY		VIC1	1	117.6	128.4	10.9	0.0	20.9	20.9

Case study	2
Description	Trading behind a loop constraint
Dispatch interval	9 April 2021

- This voltage stability loop constraint has a wide range of coefficients and includes an interconnector.
- DARLSF1 is marginal at -$1000/MWh and would like to be dispatched more but has a high coefficient.
- GANNBL1 is assumed to increase its max availability from 2 MW in NEM run to 25 MW in CRM but only gets dispatched to 15.5 MW because of FCAS.
- GANNBL1's low coefficient of 0.1749 means that only 2.4 MW of additional dispatch is possible at DARLSF1.
- The imbalance on energy must be provided outside of the constraint and so MURRAY dispatch is increased.

Lessons learned

- Batteries are important providers of FCAS and this will affect how much charging they can provide in the CRM to allow additional energy dispatch behind constraints.
- Loop constraints in the NEM can comprise a wide range of coefficients and often have interconnector terms.
- It is difficult for a high coefficient generator to displace a low coefficient generator in the CRM.
- For DARLSF1 (coeff 1) to displace ARWF1 (0.0931) bidding at $5/MWh it would need to bid at -$150/MWh.
- However, it doesn’t need to displace the lowest coefficient DUID just the next lowest one participating in the CRM.
- Trading behind loop constraints will involve different coefficients and typically will require DUIDs outside the loop to participate in the CRM and provide the energy balance.
- Given that loop constraints often involve interconnector terms trading behind a loop constraint can have NEM wide impacts.
- FCAS impacts can be far reaching. Even DUIDs that are not participating in the CRM may be dispatched differently for FCAS. If we prevent this occurring it will reduce the amount of energy trading in the CRM.

CASE STUDY 3 – MULTIPLE CONSTRAINTS AND NEGATIVE RESIDUE MANAGEMENT

Constraint	NEM	CRM
#TORRB3_D_E	Binding	Binding
$SWAN_E	Binding	Binding
F_I+LREG_0210	Binding	Binding
F_I+NIL_APD_TL_L5	Binding	Binding
F_I+NIL_APD_TL_L6	Binding	Binding
F_I+NIL_APD_TL_L60	Binding	Binding
F_I+NIL_MG_R5	Binding	Binding
F_I+NIL_MG_R6	Binding	Binding
F_MAIN++NIL_MG_R6	Binding	Binding
F_MAIN++NIL_MG_R60	Binding	Binding
F_MAIN+NIL_DYN_RREG	Binding	Binding
F_T+MAXS_LREG	Binding	Binding
F_T+MAXS_RREG	Binding	Binding
F_T+NIL_MG_RECL_R60	Binding	
F_T+STH_NYR_ML_L5	Binding	Binding
F_T+STH_NYR_ML_L6	Binding	Binding
F_T+STH_NYR_ML_L60	Binding	Binding
N::N_UTRV_2	Binding	Binding
NRM_NSW1_VIC1	Binding	
N^N-LS_SVC	Binding	Binding
N_TARALGAWF_ZERO	Binding	Binding
Q_STR_7C0K_HASF	Binding	Binding
T>T_X_NTH_STH_B	Binding	Binding
T_CTHLWF_100	Binding	Binding
T_GRANVH_100	Binding	Binding
T_MRWF_100	Binding	Binding
F_I+NIL_MG_R60		Binding

Case study 3

Description Multiple constraints and negative residue management

Dispatch interval 2 November 2022

- N::N_UTRV_2 is an outage constraint for transient stability which when combined with negative residue management on NSW->VIC is limiting NSW wind output.
- The NEMDE prototype allows the NRM constraint to be removed in the CRM run so that only the NEM run is clamped.
- This leads to:

  +264 MW NSW wind dispatch

  -203 MW VIC brown coal

  -50 MW TAS hydro

  -267 MW flow south on VNI

  -50 MW flow north on Basslink

- This is no longer a counter-price flow because the NSW wind farms are being paid at -$7/MWh and the flow into VIC realises +$8.94/MWh

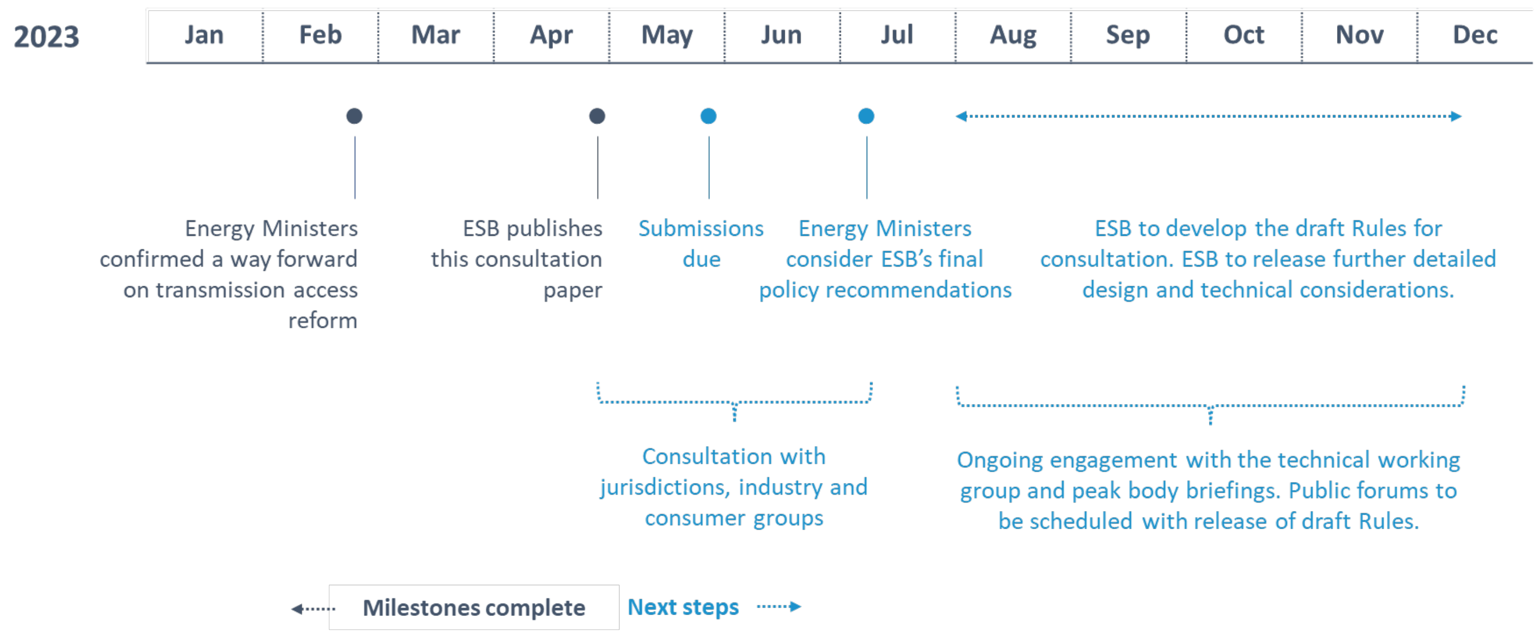
NEXT STEPS

The consultation paper represents an important project milestone but does not mark the end of the design process, nor of stakeholder input and consultation.

Together with public consultation the ESB is undertaking close engagement with each of the jurisdictions before it submits its final policy recommendations.

Assuming Ministers accept the ESB's final policy recommendations, we will develop and consult on the draft Rules later in 2023. There will be more opportunities for consultation as we move throughout this process.

Figure 10. Project milestones and next steps



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